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4

D212-664-201TRN
Job Sheet 199410



Part No: D212-664-201TRN

Job Qty: 1 pcs

Part Name: Crosstube Turning Detail



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 8/22/19

Job Tracking No:

Due Date: 9/4/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: D212-664-241 REV E IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 Removed polish EC verified DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Mori Seiki TL-40 - 1	1 pcs		9/4/19	1.00	1.33	Mori Seiki TL-40 - 1		DAS 662019/09/13 9-89
110	QC 2	1 pcs		9/4/19	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		DAS 662019/09/13 9-89
							QC 2 - 66		
							QC 2 - 64		

Plex 8/22/19 9:36 AM Dart.lajeunesse.marie

					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
120	Mori Seiki TL-40 - 1 - B4B	1 pcs	9/4/19	1.00 1.33	Mori Seiki TL-40 - 1 - B4B	DAS 66 2019/09/23 9-89
130	QC 2	1 pcs	9/4/19	0.00 0.00	QC 2 - 1	
					QC 2 - 12	
					QC 2 - 14	
					QC 2 - 17	
					QC 2 - 19	
					QC 2 - 2	
					QC 2 - 20	
					QC 2 - 22	
					QC 2 - 23	
					QC 2 - 25	
					QC 2 - 32	
					QC 2 - 33	
					QC 2 - 35	
					QC 2 - 39	
					QC 2 - 4	
					QC 2 - 40	
					QC 2 - 44	
					QC 2 - 45	
					QC 2 - 48	
					QC 2 - 49	
					QC 2 - 50	
					QC 2 - 51	
					QC 2 - 52	
					QC 2 - 57	
					QC 2 - 62	
					QC 2 - 63	
					QC 2 - 8	DAS 66 2019/09/23 9-89
					QC 2 - 66	
					QC 2 - 64	
					QC 2 - 65	
					QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
140	QC 8	1 pcs	9/4/19	0.00 0.00	QC 8 - 12	
					QC 8 - 14	
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	

				QC 8 - 67	
				QC 8 - 1 (A)	DAS
				QC 8 - 47	47 19-10-19
				QC 8 - 40	9-89
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
145 Crosstubes - 2 - B4B	1 pcs	9/4/19	0.00 0.25	Crosstubes - 1 - B4B	
				Crosstubes - 2 - B4B	B3 19/10/19
				Crosstubes - 3 - B4B	
				Crosstubes - 4 - B4B	
150 Handfinish - 1-1 Chemical-B4B	1 pcs	9/4/19	0.00 1.00	Handfinish - 1 - 1 - B4B	
				Handfinish - 1 - 2 - B4B	
				Handfinish - 1 - 3 - B4B	★ OCT 21 2019
				Handfinish - 1 - 4 - B4B	
				Handfinish - 1 - 5 - B4B	
				Handfinish - 1 - 6 - B4B	
				Handfinish - 1 - 7 - B4B	
				Handfinish - 1 - 8 - B4B	
				Handfinish - 1 - 9 - B4B	
				Handfinish - 1 - 10 - B4B	
				Handfinish - 1 - 11 - B4B	
				Handfinish - 1 - 12 - B4B	
				Handfinish - 1 - 13 - B4B	
				Handfinish - 1 - 14 - B4B	
				Handfinish - 1 - 15 - B4B	
				Handfinish - 1 - 16 - B4B	
				Handfinish - 1 - 17 - B4B	
				Handfinish - 1 - 18 - B4B	
				Handfinish - 1 - 19 - B4B	
				Handfinish - 1 - 20 - B4B	
				Handfinish - 1 - 21 - B4B	
				Handfinish - 1 - 22 - B4B	
160 QC 7	1 pcs	9/4/19	0.00 0.00	QC 7 - 10	
				QC 7 - 13	
				QC 7 - 14	
				QC 7 - 15	
				QC 7 - 17	
				QC 7 - 18	
				QC 7 - 19	
				QC 7 - 2	
				QC 7 - 28	
				QC 7 - 3	
				QC 7 - 30	
				QC 7 - 34	
				QC 7 - 36	
				QC 7 - 37	
				QC 7 - 41	
				QC 7 - 47	
				QC 7 - 48	
				QC 7 - 51	
				QC 7 - 58	
				QC 7 - 59	
				QC 7 - 60	
				QC 7 - 9	
				QC 7 - 68	B3 2019-11-1
				QC 7 - 50	DAS
				QC 7 - 67	76
				QC 7 - 40	9-89

170 Packaging 3-1 - Stock - B4B	1 pcs	9/4/19	0.00 0.00	QC 7 - 24	
				QC 7 - 43	
				QC 7 - 61	
				QC 7 - 81	
				Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	23 2019-11-1
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	DAS
180 QC 21 - SA	1 pcs	9/4/19	0.00 0.00	QC 21 - SA - 21	21
				QC 21 - SA - 70	9-20
				QC 21 - SA - 53	NOV 01 2019

Part Op 100 - Mori Seiki TL-40 (Mori Seiki CNC Lathe Large) 1-Fill tube with sand & install plugs DT8534 on both ends as per Descriptions: Folio FA114 2-Turn first side as per Folio FA114

110 - (QC2- Inspect parts off machine FAI/FAIB)

120 - Mori Seiki TL-40 (Mori Seiki CNC Lathe Large) 1-Turn second side as per Folio FA114

130 - (QC2- Inspect parts off machine FAI/FAIB)

140 - (QC8- Inspect parts - second check)

145 - (Crosstubes) GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.

150 - Crosstubes) 1- handfinish X-TUBE INSIDE AND OUT

160 - (QC7-Inspect Chemical Conversion Coat)

170 - (Identify as per dwg & Stock Location: _____) Identify and stock in kanban rack Location: _____

180 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6006-129	Crosstube Material	1 pcs (1 ea)	100-Mori Seiki TL-40 - 1	F123967

8/22/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-Mori Seiki TL-40 - 1	D6006-129	1	45	0
Part Specifications				
Specifications could not be found.				



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Container No: S213541



Part: D212-664-201TRN

Job No: 199410

Serial No/Batch: S213541

Revision: E

Inspector:

Exp Date:

Instructions:

Date: 09/13/19

④

199410

DART AEROSPACE LTD	Work Order:	<u>199410</u>
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-664-241
Inspection Dwg: D212-664-241 Rev: E		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.195	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		RG	
	2.990	+0.005/-0.000	2.994	✓		CNC-04	
	5.237	+/-0.030	5.237	✓		CNC-08	
	2.600	+0.005/-0.000	2.605	✓		CNC-04	
	2.686	+0.005/-0.000	2.691	✓			
	2.770	+0.005/-0.000	2.774	✓			
	2.854	+0.005/-0.000	2.858	✓			
	2.938	+0.005/-0.000	2.943	✓			
	3.021	+0.005/-0.000	3.026	✓		CNC-05	
	3.133	+0.005/-0.000	3.138	✓			
	3.179	+0.005/-0.000	3.184	✓			
SIDE B	0.200	+/-0.010	.191	✓		CNC-08	
	R0.063	+/-0.010	.063	✓		RG	
	2.990	+0.005/-0.000	2.995	✓		CNC-04	
	5.237	+/-0.030	5.240	✓		CNC-08	
	2.600	+0.005/-0.000	2.605	✓		CNC-04	
	2.686	+0.005/-0.000	2.691	✓			
	2.770	+0.005/-0.000	2.775	✓			
	2.854	+0.005/-0.000	2.859	✓			
	2.938	+0.005/-0.000	2.943	✓			
	3.021	+0.005/-0.000	3.026	✓		CNC-05	
	3.133	+0.005/-0.000	3.138	✓			
	3.179	+0.005/-0.000	3.184	✓			
	124.362	+/-0.020	124.350	✓		Tape	

Item	Qty	Part Number	Description
1	X	D212-884-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2	X	D212-884-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	D6006-129	CROSSTUBE
4	2	D2840-1	SUPPORT
5	4	D3588-083-530	RUBBER CUSHION
6	2	D5018-1	SUPPORT
7	4	MS21920-28	CLAMP (OR MS21920-30)
8	AR	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.36250.020
- 2) FINISH: a) PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.1
b) MASK INSIDE OF CROSSTUBE AS SHOWN (ZN C6-2 / C6-3, HATCHED AREA)
c) PAINT OUTSIDE PER DART QSI 005 4.2
d) REMOVE MASKING AND APPLY MATTE CLEAR COAT
e) TOLERANCES ARE PER DART QSI 016 UNLESS OTHERWISE NOTED.
f) UNITS: INCHES UNLESS OTHERWISE NOTED.
g) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
h) IDENTIFICATION: SCRIBE DART PART NUMBER 'D212-884-XXX' AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: D212-884-241/-241B = 44.2 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 10) MACHINING
a) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 11) BENDING
a) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 7.2% (BASED ON O.D.) IN LOWER HALF OF R35.5 BEND AND 9% (BASED ON O.D.) ON REMAINING TUBE.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- ASSEMBLY
- 13) INSTALL D2840-1 / D5018-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 14) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3588-083-530 RUBBER CUSHIONS TO SECURE THE SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TIGHTENING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.

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WORK ORDER

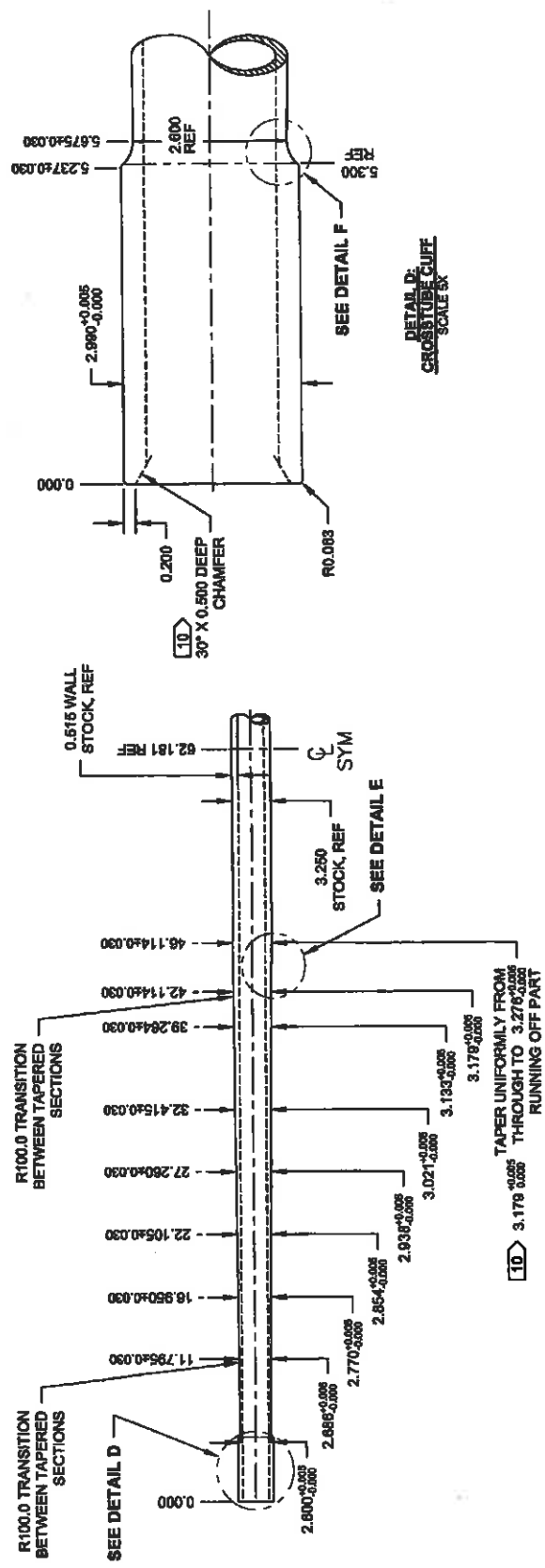
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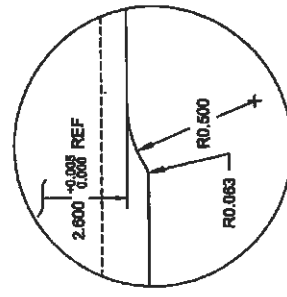
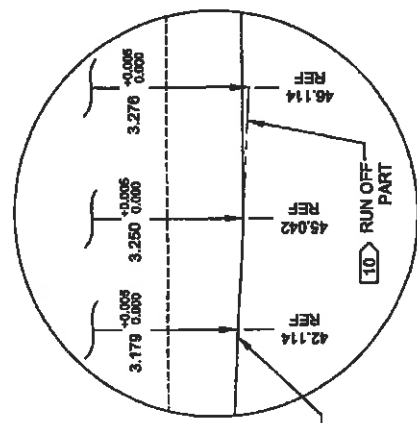
RELEASED
2014-05-26

E	D2018-1 WAS D2840-1 (241B). PROSEAL WAS MAGNABOND. NOTE 2: ADD INSPECTION WINDOW, NOTE 1: ALLOW 7.2% CRUSH. NOTE 16: ADD 72HR CURE AND RETORQUE FOR PROSEAL. ADD SHEET 3, CLAMPS REVERSED TO PREVENT CHAFING (ZN B7-2, B7-3). BEND HEIGHT TOL. NOW 0.26 WAS 0.13 (C1-4). INCORP DEC D-11-2	CP	14.04.01
D	REFORMAT/REVISE GENERAL NOTES/PART LIST: REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D6-3 & C4-5); C6-3 & A6-3; RELOCATED FLAG #8 PER PAR 06-046 (ZN A6-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	08.06.30
C	REMOVE -1008 ABRASION STRIP; ADD MAGNABOND 839L CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATIBILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	CP	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR			
DE APPR			
DATE	14.04.01		
DART AEROSPACE LTD HARRISBURG, ONTARIO, CANADA			
DRAWING NO. D212-884-241			
TITLE CROSSTUBE ASS'Y (205/212 HI AFT)			
SCALE NTS			
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1 2 3 4 5 6 7 8



**D212-864-241TRN
TURNING DETAIL**



RELEASED
R 2014-05-26

DESIGN	D	DART AEROSPACE LTD	REV. E
DRAWN	D	HAWKESBURY, ONTARIO, CANADA	
CHECKED	N	DRAWING NO.	D212-864-241
INFO. APPR.	N	SHEET 5 OF 5	
APPROVED	N	TITLE	CROSSTUBE ASSY (205/212 HI AFT)
DATE	14.04.01	SCALE	MTS

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**DETAIL E:
TAPER RUN-OFF
NOT TO SCALE**



Entered: _____ Date: _____ **WORK ORDER NON-CONFORMANCE / ROUTE UPDATE**

Route update only ☐

NCR No. _____

DISPOSITION		DEPARTMENT/PROCESS																																				
Job: _____	Rework ☐ Scrap ☐ Use-as-is ☐	Skid-tube ☐ Machining ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐	Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐	Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐																																	
Date: _____	Sequence #: _____	QTY Affected: _____																																				
Description Work Order Deviation		Disposition																																				
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY <table border="1"><thead><tr><th>Pressure/Forced</th><th>Contamination</th><th>Power Loss/Surge</th><th>Positioned Wrong</th></tr></thead><tbody><tr><td> Bending ☐ </td><td> Misaligned/off center ☐ </td><td> Folio/Program ☐ </td><td> Outside Tolerance ☐ </td></tr><tr><td> Crushing ☐ </td><td> BOM/Route ☐ </td><td> Grain Direction ☐ </td><td> Drawing ☐ </td></tr><tr><td> Cracks ☐ </td><td> Broken/Damage/Defect ☐ </td><td> Weld ☐ </td><td> Finish ☐ </td></tr><tr><td> Crimp/Kink/Ripple/Wave/Twist ☐ </td><td> Incomplete/Unclear Instructions ☐ </td><td> Wrong Stock Pulled ☐ </td><td> Part Lost/Missing ☐ </td></tr><tr><td> Marks/Chatter ☐ </td><td> Drill Holes ☐ </td><td> Out of Sequence ☐ </td><td> Misread ☐ </td></tr><tr><td> Mislabeled ☐ </td><td> Fit/Function ☐ </td><td> Off-set/Set-up ☐ </td><td></td></tr><tr><td colspan="4">Other/Details: _____</td></tr></tbody></table>				Pressure/Forced	Contamination	Power Loss/Surge	Positioned Wrong	Bending ☐	Misaligned/off center ☐	Folio/Program ☐	Outside Tolerance ☐	Crushing ☐	BOM/Route ☐	Grain Direction ☐	Drawing ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Finish ☐	Crimp/Kink/Ripple/Wave/Twist ☐	Incomplete/Unclear Instructions ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Marks/Chatter ☐	Drill Holes ☐	Out of Sequence ☐	Misread ☐	Mislabeled ☐	Fit/Function ☐	Off-set/Set-up ☐		Other/Details: _____				Completed By _____
						Pressure/Forced	Contamination	Power Loss/Surge	Positioned Wrong																													
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Other/Details: _____																																						
		Lead hand / Supervisor _____																																				
		QC / QA Coordinator _____																																				